APPARATUS AND METHOD FOR PRECLUDING ARTICLES FROM FALLING INTO A GAP

[0001] This application claims priority under 35 U.S.C. § 119 to provisional patent application Serial No. 60/438,687, filed January 8, 2003.

BACKGROUND OF THE INVENTION

[0002] The invention is directed to a device that covers a gap between adjacent surfaces. More particularly, the invention is directed to a device that covers the type of gap often existing between a refrigerator and an adjacent countertop in residential kitchens to prevent items from falling into the gap. It has particular application in guarding against the problem of items attached to the side of a refrigerator by magnets (*e.g.*, photographs, newspaper clippings, and important papers) falling into the gap where they become lost or retrievable only with difficulty. It also guards against food and other items falling into the gap.

SUMMARY OF THE INVENTION

[0003] According to a first aspect of the invention, a guard for precluding articles from falling into a gap between a vertical surface and an adjacent horizontal surface, wherein the vertical surface extends above the horizontal surface, comprises an elongated section of material including a surface portion substantially defining a plane and a gap-covering portion extending away from the plane of the surface portion in a fixed angular relationship. The surface portion is adapted to be affixed to the vertical surface. The gap-covering portion extends a distance of at least about 0.5 inch measured orthogonally from the surface portion.

[0004] According to another aspect of the present invention, a guard is provided for covering a gap between two devices, at least one of which has a magnetizable surface. The guard includes a first leg including a magnetic portion and a second leg attached to the first leg such that the guard has a substantially L-shaped configuration in cross section.

[0005] According to yet another aspect of the invention, a method is provided for precluding articles from falling into a gap between a vertical surface of a first device such as a household refrigerator, cabinet, or wall and a horizontal surface of a second device such as a stovetop or countertop, wherein the vertical surface of the first device extends above the horizontal surface of the second device. The method includes providing a guard including a surface portion adapted to affix to the vertical surface of the first device and a gap-covering portion extending in a fixed angular relationship from the surface portion to span the width of the gap between the first and second devices. The method further includes attaching the guard to the first device by affixing the surface portion of the guard to the vertical surface of the first device such that the gap-covering portion of the guard spans at least a substantial portion of the gap between the first and second devices.

[0006] According to yet another aspect of the invention, a method for precluding articles from falling into a gap between a vertical surface of a household refrigerator and a horizontal surface of a second device such as a stovetop or countertop is provided. The method includes providing a guard including a magnetic surface portion for attaching the guard to the vertical surface of the refrigerator and a gap-covering portion extending from the surface portion to span the width of the gap between the refrigerator and the second device. The method further includes attaching the guard to the refrigerator by contacting the magnetic surface portion of the guard with the vertical

surface of the refrigerator such that the gap-covering portion of the guard spans at least a substantial portion of the gap between the refrigerator and the second device.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a perspective view of one environment where a guard according to the present invention may be employed.

[0008] FIG. 2 is a perspective view of the inventive guard.

[0009] FIG. 3 is a cross-sectional view of one embodiment of the guard shown in FIG. 2.

[0010] FIG. 4 is a cross-sectional view of a second embodiment of the guard shown in FIG. 2.

[0011]FIGS. 5-16 are additional alternative embodiments of the inventive guard shown schematically in cross-section.

[0012] FIG. 17 is a view of an additional environment where the guard of FIG. 2 can be employed.

[0013] FIG. 18 is a view of an alternative manner of mounting the guard of FIG. 2 in the environment depicted in FIG. 1.

DETAILED DESCRIPTION OF THE INVENTION

[0014] It is to be understood that the specific devices and processes illustrated in the attached drawings and described in the following description are simply exemplary embodiments of the inventive concepts. Hence, specific examples and characteristics relating to the embodiments disclosed herein should not to be considered as limiting the scope of the invention.

[0015] An example of the environment in which the invention can be used is shown in FIG. 1, where an appliance, an example of which being a refrigerator 10, is

positioned adjacent a counter cabinet 12 having a countertop 14. For ease of explanation of the invention, the environment described will be that containing a refrigerator and an adjacent cabinet, with the refrigerator having a vertical side wall formed of a magnetizable material, that is, material that is capable of being attracted to a magnet. The invention can be used, however, to cover the gap between two adjacent appliances, an appliance and an adjacent wall, two adjacent cabinets, or any two items having a gap between a vertical surface and a horizontal surface that one wishes to preclude objects from entering. In the embodiment shown in FIG. 1, a gap 16 exists between the refrigerator 10 and the adjacent countertop 14 and cabinet 12. Refrigerator manufacturers typically recommend that a gap having a width between 0.125-0.5 inch be maintained between the refrigerator and adjacent cabinetry or appliances.

[0016] The guard 20 mounts to the refrigerator 10 or the counter cabinet 12 to prevent items from falling into the gap 16. The guard 20 can have a length approximating the depth dimension of a typical countertop, about 24-25 inches. The guard can be made of a rigid material, such as a metal or rigid polymer. The guard can also be made of a flexible material, such as a flexible polymer, to allow the guard to conform to slight undulations or the like on the countertop 14 or the refrigerator 10. The guard can also be made from a material that can be easily cut by household cutting utensils, such as scissors or a utility knife, to permit the user to change the length or width of the guard to fit more closely the depth of the countertop or the width of the gap in a particular circumstance.

[0017] With reference to FIGS. 1 and 2, the presently preferred embodiment of guard 20 includes a first leg 22 that attaches to a second leg 24 adjacent respective edges of the legs, such that the first and second legs have a fixed angular relationship to each other. In the embodiment shown in FIGS. 1 and 2, the first leg 22 and the second leg 24

form an angle of approximately 90° and provide a guard 20 having a generally L-shaped cross-section. When mounted to the refrigerator 10, the first leg 22 is situated substantially vertically, and the second leg 24 extends substantially perpendicularly to cover the gap 16. The first leg 22 has a height preferably of about 1-2 inches, to provide adequate contact with the refrigerator to ensure that the guard is firmly attached to the refrigerator. The thickness of the first leg is preferably 0.125 inch or less. The first leg 22 includes a mounting surface 26 that faces away from the second leg 24 and toward the surface of the refrigerator to which the guard is mounted.

[0018] With reference to FIG. 3, in one embodiment an attachment device 28 mounts to the mounting surface 26. The attachment device 28 is used to affix the first leg 22 of the guard 20 to either the refrigerator or the counter cabinet. The attachment device can comprise an adhesive material, a magnet, or some other non-intrusive attachment device. The magnet can be similar to a conventional refrigerator magnet, and can also include a material able to conduct a magnetic charge. The attachment device can extend the substantially entire length of mounting surface 26. In one particular embodiment as seen in FIG. 3, the attachment device 28 can mount inside a notch 32 formed in the first leg 22 on the mounting side 26. The notch can have a depth substantially equal to the depth of the attachment device so that the attachment device fits flush inside the notch. Accordingly, the mounting surface will be substantially flush against the refrigerator surface when the guard is mounted to the refrigerator.

[0019] With reference to FIG. 4, in another embodiment the first leg 22 includes a lamination 34 of magnetic material on the mounting surface. The lamination 34 of magnetic material preferably runs substantially the full length of the mounting surface, although discrete segments of magnetic material can be employed as an alternative. The lamination material preferably is similar to the material used for flexible refrigerator

magnets. Although the magnetic lamination 34 shown in FIG. 4 does not extend the full vertical height of guard 20, those of ordinary skill in the art will recognize that it can do so.

[0020] As stated earlier, the guard 20 shown in FIGS. 1-4 includes a second leg 24 having its edge attached at or near an edge of the first leg 22 in a fixed angular relationship to the first leg 22. When the first leg 22 is mounted to the vertical surface of the refrigerator 10, the second leg 24 is situated substantially horizontally. The second leg 24 preferably extends from mounting surface 26 by about 1-2 inches, to provide adequate contact with the adjacent countertop to ensure that a variety of gaps would be covered and also to carry some of the weight of the guard. A practical minimum dimension for the width of the second leg 24 would be about 0.5 inch, which would be sufficient to span the refrigerator manufacturers' recommended gap. The thickness of the second leg is preferably 0.125 inch or less. As noted above, the second leg 24 extends away from the first leg 22 to span the gap 16 between the refrigerator and the adjacent countertop.

[0021] With reference now to FIGS. 5-16, alternative embodiments of the guard are disclosed schematically in cross-section. Each of these embodiments includes a mounting surface 26 that can be attached to the side of refrigerator or other vertical surface and a gap-covering portion or member 40 that extends away from mounting surface 26 to cover a gap between the vertical surface and an adjacent appliance, countertop, etc. In the embodiments shown in FIGS. 7-14, the gap-covering portion 40 can be hollow, solid, or partially solid. These cross sections are shown as examples of the many different possible cross-sections that fall within the scope of the invention. The invention, however, is not limited to those cross-sections that are shown. Moreover, although the drawings (see FIGS. 1 and 2) show a guard for which both the mounting

surface and gap-covering portion extend over the full length of the guard, the invention also contemplates a guard having a mounting surface with a length less than the length of the gap-covering portion as well as a mounting surface comprising a plurality of discrete sections spaced from each other along the length of the guard.

[0022]FIGS. 17 and 18 show additional alternative mounting environments for the guard of this invention. In the environment shown in FIG. 17, where the guard 20 has a first leg 22 with a magnetic surface portion, it covers the gap between a filing cabinet 50 fabricated from a magnetizable metal and an adjacent wall 52 by affixing the first leg 22 to the horizontal top surface of the filing cabinet. Accordingly, the first leg 22 will in essence become the gap-covering portion and the second leg 24 will abut against the vertical wall.

[0023] A user also might choose to orient the guard 20 in the environment of FIG. 17 so that the second leg 24 depends downwardly along the wall 52, instead of upwardly as shown in FIG. 17. If the guard is constructed as shown in FIGS. 3 and 4, with the magnetic portion disposed on the outer face of first leg 22, reliable securement of the first leg 22 to the top surface of the metal filing cabinet in this alternative orientation requires that the magnetic portion be of sufficient strength to provide magnetic attraction through the thickness of the non-magnetic portion of first leg 22 to hold the guard in place. Those skilled in the art also would recognize that a guard intended for use in this alternative orientation in the environment of FIG. 17 could have the magnetic portion on the inner face of the first leg 22 so that it would directly contact the top horizontal surface of the metal filing cabinet when the second leg 24 depended downwardly.

[0024] With reference to FIG. 18 yet another way to mount the guard 20 such that it covers the gap 16 between a refrigerator and an adjacent countertop is shown. In

this embodiment the first leg 22 includes an adhesive on its mounting surface that can fasten to the side wall of the counter cabinet 12 beneath the countertop 14 when the user wishes to hide the guard 20 from view. Alternatively, the first leg 22 can be affixed to the refrigerator's vertical wall at a position below the countertop 14, allowing use of either magnetic material or an adhesive on the mounting surface of the first leg 22.

[0025] As can be seen from the examples disclosed above, the guard 20 can be used to cover a gap between many different adjacent objects with many different mounting orientations, including those covering vertical gaps. Furthermore, the invention has been described with reference to the preferred embodiments. Obviously, modifications and alterations will occur to others upon reading and understanding the preceding detailed description. It is intended that the invention be construed as including all such modifications and alterations insofar as they come within the scope of the appended claims or the equivalents thereof.